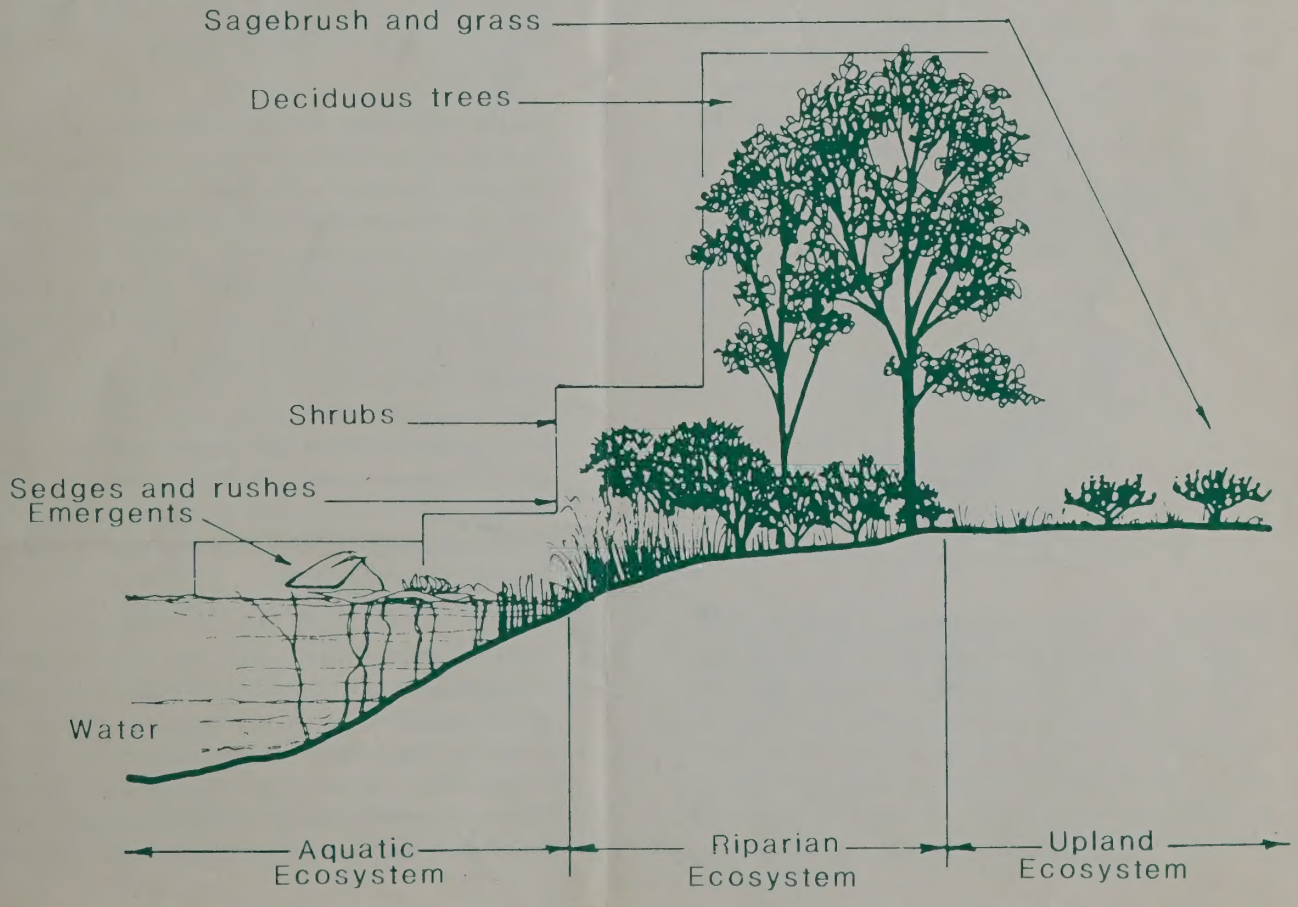
U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

Riparian Area Management

What is a riparian area?

In layman's terms, riparian areas are the green zones along the banks of rivers and streams and around springs, bogs, wet meadows, lakes, and ponds. Among the most productive ecosystems found on public lands, they vary greatly in their nature and character. On BLM lands in western Oregon and California, riparian areas are characterized by a zone of deciduous trees and shrubs between the stream and the conifer forests. In Alaska, riparian areas are comprised of willows, alders, and meadow grasses along rivers, lakes, and bogs. In the arid climate of the Great Basin and Southwest, riparian areas are gems in the midst of the desert. They are characterized by grasses, forbs, sedges, woody shrubs, and trees, and are easily distinguished from drier upland vegetation.

Yet all riparian areas managed by BLM share the same characteristic—they are extremely valuable for a wide variety of purposes.



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Why are riparian areas so valuable?

Riparian areas are unique and among the most productive and important ecosystems on the public lands. They display a greater diversity of plant and wildlife species and vegetation structure than adjoining ecosystems.

Healthy riparian systems purify water as it moves through the vegetation by removing sediment, and act like a sponge by retaining water in streambanks and ground water aquifers. Riparian vegetation along upper watershed streams can absorb and dissipate the energy of flood waters before they reach high value agricultural lands in lower valleys.

Many wildlife species are dependent upon the unique and diverse habitat niches offered by riparian areas. These habitats provide food, water, shade, and cover, and are valuable sources of forage for big game and livestock. Riparian vegetation is of critical importance for fish, especially for trout in desert streams where the vegetation provides escape cover, lowers summer water temperatures through shading, and reduces streambank erosion that can silt in spawning and rearing areas.

Riparian areas also are focal points for recreation, including fishing, camping, boating, hiking, and just plain loafing!

Because of their importance, conflicts have arisen between a variety of special interests over what is considered appropriate riparian management. In some cases, riparian areas have become battlegrounds, with environmental and conservation groups seeking protection and preservation while user groups respond with needs for continued uses of these productive areas.

What is BLM doing to manage riparian areas?

BLM managers are attempting to resolve these conflicts in such a manner that the natural resources are protected and used to their best advantage. To accomplish this, BLM emphasizes a multidisciplinary approach to riparian management, involving not only the traditional programs such as wildlife habitat management and soil, water, and air management, but also minerals, grazing, forestry, recreation, lands, and others.

During the late 1970's, BLM professionals began conducting inventories to determine the condition of riparian habitats and, where necessary, recommend management measures to maintain, restore, or improve important areas. Although some areas were found to be in less than desirable condition, the good news is that riparian areas are among the most resilient ecosystems. With proper management, healthy riparian systems can be restored.

The recommendations of the resource specialists are considered and evaluated by local BLM managers during the land use planning process, which incorporates several opportunities for public participation in decisionmaking. Based on this analysis, land use decisions are made that attempt to balance the diverse public demands for the use of BLM lands with the best management practices available to protect the riparian resources.

In the development of subsequent program-specific activity plans, resource specialists must consider the potential impacts of actions upon the riparian zone. Thus, strategies for sound riparian management are included in grazing allotment management plans, timber management plans, mining operation stipulations, and other activity plans. However, riparian ecosystems cannot be considered in a vacuum. They must be looked at as part of a much larger area, including their surrounding uplands. Since what happens in the uplands can have a major impact on the riparian ecosystem, and vice versa, successful management plans must consider the entire area.

Almost every BLM resource program has identified appropriate riparian area management strategies. In the forestry program, vegetative strips are left along fish-bearing streams to preserve the values associated with riparian areas. Practices that might degrade water quality, such as yarding logs through streams, are prohibited. BLM soil scientists and engineers

employ sophisticated techniques to properly design access roads into timber sales and mining areas, thus minimizing erosion into streambeds. Off-road vehicle use is often restricted in vulnerable riparian areas.

Minerals activities offer extensive opportunities for development of new riparian areas through innovative mitigation techniques for surface disturbances, including creating riparian wetlands by developing waters encountered in "dry" oil and gas wells and developing riparian/wetland areas in association with surge or evaporation ponds and reclamation design.

Across the Western States, many management practices are being employed to reduce the impact of livestock grazing on riparian areas. Recognizing that the costs of construction and maintenance make fencing all riparian areas impractical, and that livestock grazing and proper riparian management CAN be compatible, BLM managers are turning to grazing systems that consider the needs of livestock and the requirements for a healthy riparian system.

Referred to as the "riparian pasture concept," BLM range conservationists, biologists, and other resource specialists work with livestock operators to design grazing systems that reduce or eliminate livestock use from a pasture containing an important riparian area during the hot summer months, when nearly all damage occurs. Livestock often have a tendency to "camp" on riparian areas in hot weather, seeking water, shade, and succulent forage. By allowing livestock into riparian pastures primarily during the early spring, late fall, or winter, better utilization and protection of the area can be achieved.

In a few critical areas, livestock access to riparian zones may be limited. Alternate water sources are provided by leaving water gaps or by piping water into troughs located away from reservoirs and springs.

For example, on Camp Creek in eastern Oregon, this simple management technique has resulted in a six-foot increase in the stream bed level in less than 20 years, with revegetation of the stream banks and a year-round water flow where it once dried up during the hot summer months.

In a number of BLM Districts, field personnel are trying to speed up the healing of damaged watersheds by constructing instream structures such as check dams and gabions to protect the streambanks, trap sediments, and build up water tables. Other techniques may be equally useful, though less expensive to implement. For example, on the John Day River in eastern Oregon, juniper trees have been anchored to streambanks to prevent further erosion and trap soil.

Bureau employees in Wyoming have used the assistance of "nature's engineer"—the beaver—to rehabilitate eroding streams. Scarce building materials such as willow and aspen are delivered to the streams, where they are used by beavers as foundations for sturdy dams that can survive floods and build up streambanks and water tables. In some cases, even the beavers have been trapped and moved into riparian areas needing their assistance.

BLM biologists and engineers in western Oregon have enhanced spawning and rearing habitats of salmon and steelhead by coordinating construction of gabion check dams, strategic placement of logs and boulders, and removal of barriers blocking access to spawning areas. Much of the labor for these projects has been provided by volunteers from local sportsmen's clubs, Boy Scout troops, and college students.

To illustrate potential opportunities to enhance riparian areas to the public, State agencies, and BLM employees, BLM's Director has required that each District develop a riparian demonstration area, where the best management practices and instream habitat improvement work will be implemented. Such areas will demonstrate the benefits and resiliency of riparian systems.

BLM biologists, soil scientists, range conservationists, and hydrologists also are monitoring riparian areas to determine if the land use plans and subsequent management actions are meeting the resource objectives. Biologists in western Oregon are conducting detailed long-term studies of salmon populations in logged watersheds and in streams where fish habitat improvement work has been completed. Soil scientists and hydrologists monitor water quality and streambank erosion. Biologists and range conservationists use a variety of techniques, including photo plots, vegetation transects, low level aerial photography, and aquatic insect sampling to determine the health of riparian systems. This information is used to advise the managers on the effectiveness of land use and activity plans and to recommend where changes in management strategies are needed.

BLM also is involved in acquiring new and critical riparian areas through land exchanges with States and private individuals. In Arizona alone, BLM has acquired more than 157,000 acres of prime riparian habitat during the last two years. The most significant of these acquisitions is a 43,000-acre tract along the San Pedro River in southeastern Arizona. The area serves as a migration corridor for tropical wildlife species moving into and out of Mexico and provides habitat for hundreds of other wildlife species, including almost 20 percent of Arizona's nesting population of the rare gray hawk. It also is one of the most significant large broadleaf riparian areas remaining in the State.

What can you do to help?

Maintaining and improving riparian areas requires the help of all users of the public lands. BLM encourages the involvement of sportsmen's groups, Boy Scouts, college students, and others in projects such as constructing gabions, planting planting trees and shrubs along streams and reservoirs, and assisting in monitoring and study efforts. Conservation organizations can assist on-the-ground efforts by participating in programs such as challenge grants, in which private investment dollars are matched by Federal funds.

State fish and game agencies have entered into cooperative agreements with BLM through habitat management plans and coordinated resource management plans for the protection of fish and wildlife habitats associated with riparian areas. Private land owners and livestock operators are working with local BLM officials, county extension agents, and local soil and water conservation districts to protect and improve riparian areas on both private and public lands.

How will BLM's riparian area management benefit you?

All users of the public lands will benefit from properly managed riparian areas. Livestock operators will protect critical sources of livestock water and forage, and significantly reduce the threat of flood damage to their private lands. Sportsmen will enjoy more abundant wildlife and higher quality hunting and fishing experiences. Nature enthusiasts will encounter more numerous and diverse wildlife and plant species. And recreationists will find their visit to the public lands more aesthetically pleasing.

Proper management of our riparian resources is a complex job; a challenge that none of us—the Bureau, the permittee, or other affected interest—can afford to ignore.

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Bureau of Land Management

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Bureau of Land Management
Riparian Area Management Policy

BACKGROUND

Riparian areas are unique and among the most productive and important ecosystems, comprising approximately 1 percent of the public lands. Characteristically, riparian areas display a greater diversity of plant, fish, wildlife, and other animal species and vegetation structure than adjoining ecosystems. Healthy riparian systems filter and purify water as it moves through the riparian zone, reduce sediment loads and enhance soil stability, provide micro-climate moderation when contrasted to extremes in adjacent areas, and contribute to groundwater recharge and base flow.

DEFINITIONS

Riparian Area - an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and stream banks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

Riparian Area-Dependent Resources - resources such as water, vegetation, fish, and certain wildlife that owe their existence to the riparian area.

OBJECTIVE

The objective of riparian area management is to maintain, restore, or improve riparian values to achieve a healthy and productive ecological condition for maximum long-term benefits.

POLICY STATEMENTS

In order to meet the foregoing objective, the Bureau will to the extent practical:

- Achieve riparian area improvement and maintenance objectives through the management of existing uses wherever feasible.
- Ensure that new resource management plans and activity plans, and existing plans when revised, recognize the importance of riparian values, and initiate management to maintain, restore, or improve them.
- Prescribe management for riparian values that is based upon site-specific characteristics and settings.
- Give special attention to monitoring and evaluating management activities in riparian areas and revise management practices where site-specific objectives are not being met.
- Cooperate with and encourage the involvement of interested Federal, State, and local governments and private parties to share information, implement management, coordinate activities, and provide education on the value, productivity, and management of riparian areas.
- Retain riparian areas in public ownership unless disposal would be in the public interest, as determined in the land use planning system.
- Identify, encourage, and support research and studies needed to ensure that riparian area management objectives can be properly defined and met.

Robt J Burford

Director, Bureau of Land Management

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Date